FUJITSU THE POSSIBILITIES ARE INFINITE

24V DRIVE, 2-COLOR THERMAL PRINTER

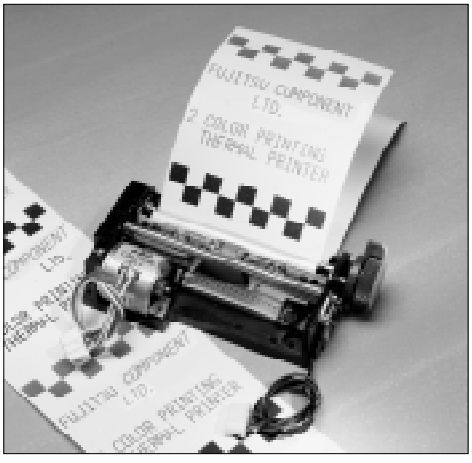
2” TYPE MECHANISM

FTP-622MCL101/102/353/354

■ OVERVIEW

New 2-color printer (blue/black or red/black) joins FTP-602 Series. The series consists of 24V battery drive compact thermal printers which can print at high speed.

This series is suitable as built-in printer for a variety of applications, such as portable terminals, POS terminals, ticket machines, coupon machines, label printers, banking machines, measuring devices, medical equipment, etc.



FTP-622MCL101

■ HIGHLIGHTS

- **2 Color printing**
  It can print 2 colors: blue/ black or red/black
- **High speed printing**
  It can print at 100 mm/s (800 dotlines/s) by using Fujitsu Components' unique head drive control (at monochromatic printing).
  Speed of 2-color printing:
  - blue and red: 80 mm/s (460 dotlines/s) maximum
  - monochromatic print: 40mm/s maximum
- **Auto Cutter**
  Printer with auto cutter (full cut/ partial cut) is available.
- **Paper auto loading function**
  Thermal paper can be loaded without head-up lever operation.
- **Easy head access**
  It is designed for easy head cleaning and head replacement.
- **Two paper paths**
  Front and bottom paper insertion is available.

■ PART NUMBERS

Name		Part Number
Printer Mechanism		FTP-622MCL101 (front paper insertion) FTP-622MCL102 (bottom paper insertion)
Printer Mechanism with Cutter		FTP-622MCL353 (front paper insertion) FTP-622MCL354 (bottom paper insertion)
Interface Board	Parallel	FTP-622DCL411*1
	Serial	FTP-622DSL438*2 (Gothic, Kanji)
LSI (MCU)		FTP-622CU201*3
Interface Cable	Parallel (Centronics)	FTP-441Y201
	Serial (RS-232C)	FTP-622Y301
Cable	Power	FTP-622Y401
	Head	FTP-622Y801 (FFC preassembled to mechanism)

*1: FTP-622DCL411 is ANK supported only

*2: FTP-622DSL438 has FLASH memory and can print high speed images

*3: Supports Kanji and parallel and serial interfaces

■ GENERAL SPECIFICATIONS

Item		Specifications
Part number		FTP-622MCL101/102/353/354
Printing method		Thermal-sensitive line dot method
Dot structure		432 dots/line
Dot pitch (Horizontal)		0.125 mm (8 dots/mm)—Dot density
Dot pitch (Vertical)		0.125 mm (8 dots/mm)—Line feed pitch
Effective printing area		54 mm
Number of columns		ANK 36 columns (12X24 dot font max.)
Paper width		58mm$\pm^{0}_{1}$ 60mm$\pm^{0}_{1}$
Paper thickness		60 to 100 μ m (there may be exceptions)
Printing speed		100mm/s (800 dotlines/s maximum at black-white image batch printing
Character types		Alphanumeric KANA :159 International :195 JIS Kanji (Kanji CG loaded board) :approx. 6800
Character, dimensions(H×W), number of characters	12×24 dots,(1.5×3.0mm) 24×24 dots,(3.0×3.0mm) 8×16 dots,(1.0×2.0mm) 16×16 dots,(2.0×2.0mm)	36 columns 18 columns 54 columns 27 columns
Interface		Centronics / RS-232C standard

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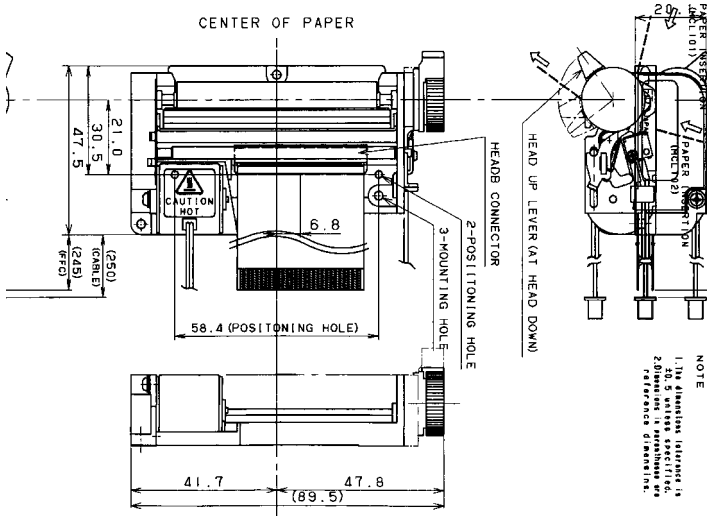
Item		Specifications	
Part number		FTP-622MCL101/102/353/354	
Power supply	For head	24 VDC ±5% 1.1 (1.7A) (24V Rav1500Ω, 25% printing ratio)	
	For printer motor	24VDC±5% 1A maximum	
	For cutter motor	24VDC±5% 1A maximum	
	For logic	5VDC±5% 0.5 A maximum	
Dimensions	Printer Mechanism	82 (W) × 48 (D) × 20 (H) mm	
	Mechanism with cutter	97 (W) × 57 (D) × 38(H) mm	
	Interface board	131 (W) × 89 (D) × 24 (H) mm	
Weight	Printer Mechanism	Approximately 81g	
	Mechanism with cutter	Approximately 280g	
Life	Head	Pulse durability: 1×10^8 pulse/dot (using Fujitsu Components' standard driving method) Wear resistance: 50 km (at 25% print ratio)	
	Cutter	$3x10^3$ times minimum	$5x10^5$ times minimum
Environmental conditions	Operating temperature	+5 to +40°C (Guarantee, but can operate between 0°C to +50°C)	
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	–20 to +60°C (excluding paper)	
	Storage humidity	5 to 95% RH (no condensation)	
Detection	Head temperature	By thermistor	
	Paper out/Mark detect	By photointerrupter	
	Head release	By slide switch	
Recommended thermal sensitive paper	2 color paper (blue/black) (red/black)	PB770 (Mitsubishi paper) PB670 (Mitsubishi paper)	
	High sensitivity paper	TF50KS-E4 (Nippon paper)	
	Standard paper	TF60KS-E (Nippon paper), FTP-020P0104 (58mm) PD150R (Oji paper), FTP-020P020P0701 (58mm)	
	Medium term paper	TP60KS-F1 (Nippon paper),FTP-020P0102(58mm) PD170R (Oji paper) P220VBB-1 (Mitsubishi paper) PD160R-N (Oji paper)	
	Long term paper	AFP-235 (Mitsubishi paper) TP50KJ-R (Nippon paper) HA220AA (Nippon paper)	

■ DIMENSIONS

1. Printer mechanism

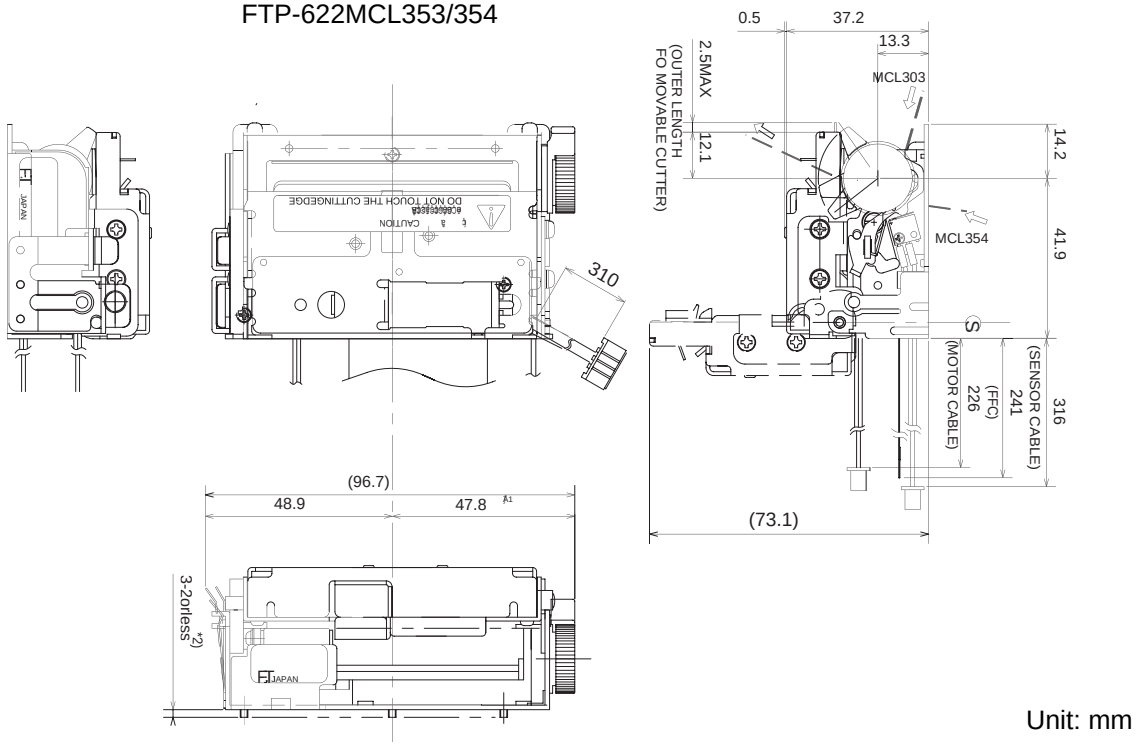
FTP-622MCL101/102



Unit: mm

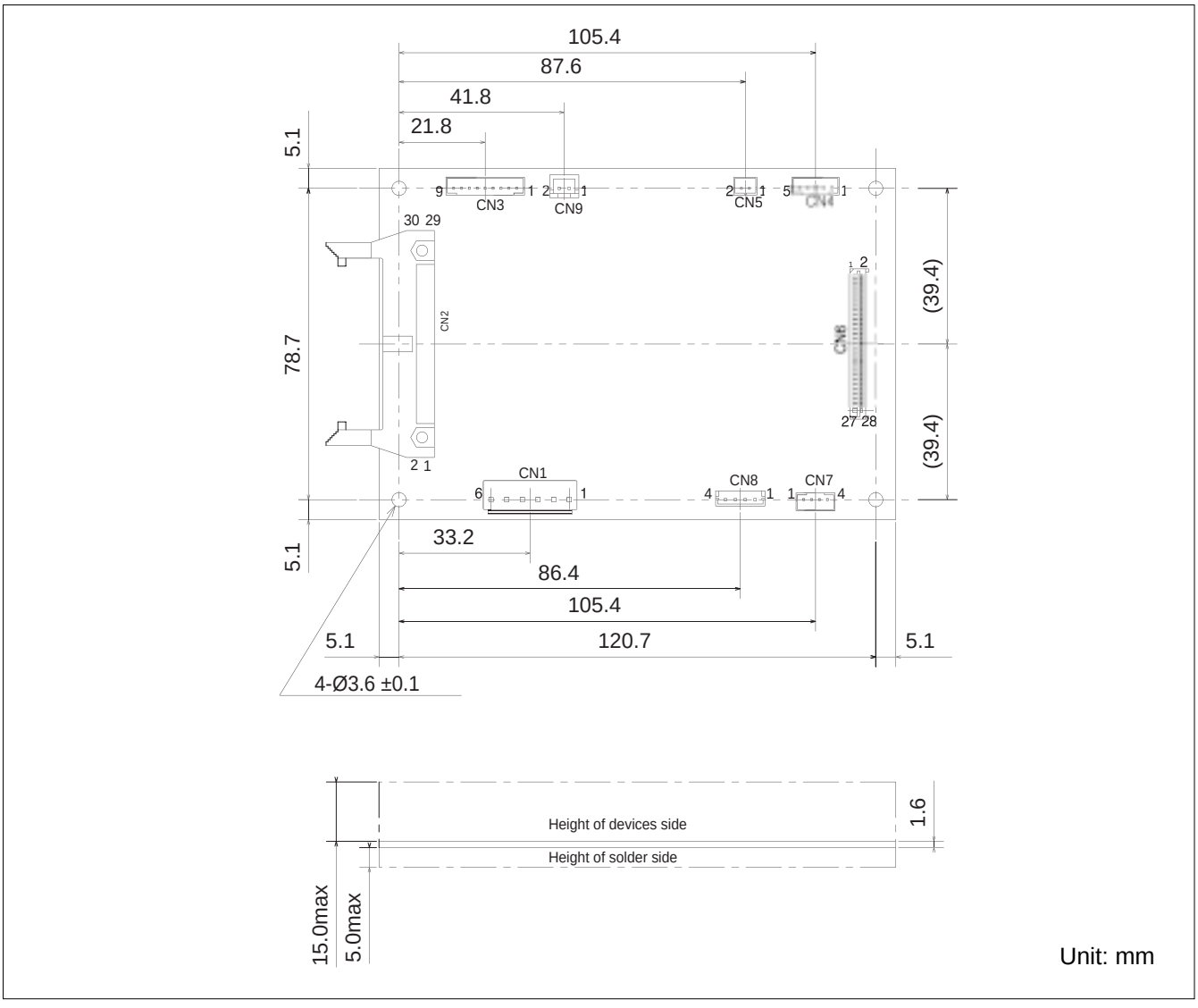
2. Printer mechanism with cutter

FTP-622MCL353/354



Unit: mm

Interface board

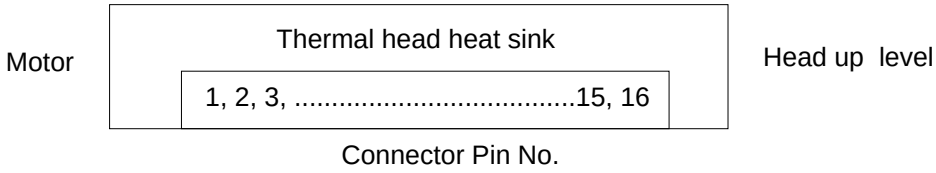


■ CONNECTOR FOR THERMAL HEAD

1.

Head side : IL-FPC-28CLIP (JAE)
Board side : 52045 (Molex) or equivalent

*1: Symbol: "‾" means a negative logic signal



Connector Pin No.

2. Motor connectors

Motor side : PHR-4 (J.S.T.) or equivalent
Board side : B4B-PH-K-S (J.S.T.) or equivalent

No.	Signal	Comment
1	$\overline{B}$	Pulse motor driving $\overline{B}$
2	B	Pulse motor driving B
3	$\overline{A}$	Pulse motor driving $\overline{A}$
4	A	Pulse motor driving A

3. Sensor connectors

Sensor : PHR-5 (J.S.T.) or equivalent
Board side : B5B-PH-K-S (J.S.T.) or equivalent

No.	Signal	Comment
1	VSEN	Power for paper sensor
2	PHE	Photo interrupter emittor
3	PHK	Photo interrupter cathode
4	SW1	Head up detect switch 1
5	SW2	Head up detect switch 2

■ FUNCTION

	ITEM		ITEM
1.	Test printing	8.	Motor power save
2.	Paper-out detection	9.	Mark detection
3.	Paper near end detection	10.	MCU trouble detection
4.	Head-up detection	11.	Power on/off sequence protection
5.	Abnormal temp. of thermal head detection	12.	Motor protection
6.	Blown fuse detection	13.	Hardware timer
7.	Abnormal voltage detection of head		